

Assessment Schedule – 2005**Statistics and Modelling: Solve straightforward problems involving probability (90643)****Evidence Statement**

	Achievement Criteria	Q	Evidence	Code	Judgement	Sufficiency
Achievement	Solve straight-forward problems involving probability.	1	0.3565	A	Accept equivalent.	Achievement: 3 × code A.
		2	0.5	A	Accept equivalent.	
		3(a)	0.95	A	Accept equivalent.	
		3(b)	Not mutually exclusive as $P(A \cap B) = 0.5 \neq 0$	A	Answer and justification needed. Accept a correct written explanation that relates to the context.	
Achievement with Merit	Solve probability problems.	4	$\frac{190}{245} = 0.776$	M, A	Accept equivalent.	Achievement with Merit: EITHER As for Achievement plus 2 × code M OR 3 × code M.
		5	$\frac{533}{2400} = 0.222$	M, A	Accept equivalent.	
		6	$\frac{21}{126} = \frac{1}{6} = 0.167$	M, A	Accept equivalent.	
Achievement with Excellence	Apply probability theory.	7	$P(x) = \frac{\binom{3}{x} \binom{6}{4-x}}{\binom{9}{4}} \quad x = 0,1,2,3$ $P(x = 0) = \frac{15}{126}, P(x = 1) = \frac{60}{126},$ $P(x = 2) = \frac{45}{126}, P(x = 3) = \frac{6}{126},$ $E(x) = 1.33 \text{ (2 dp)}$	E, M, A	Evidence of how the solution is found must be given. Accept equivalent. Note: using fraction / ratio approach NS.	Achievement with Excellence: As for Merit plus code E.

Judgement Statement

Achievement	Achievement with Merit	Achievement with Excellence
<p>Solve straightforward problems involving probability.</p> <p>3 × A</p>	<p>Solve probability problems.</p> <p>Achievement <i>plus</i> 2 × M <i>or</i> 3 × M</p>	<p>Apply probability theory.</p> <p>Merit <i>plus</i> 1 × E</p>